What is claimed:

1. A light emitting device comprising:

a light output;

a light source producing light including wavelengths of 530 nm or less; and

a wavelength transformer located between the light source and the light output, comprising $Sr_{1-x}Ca_xGa_2S_4:yEu^{2+}\bullet zGa_2S_3$, where x is 0.0001 to 1, y is a value defining sufficient Eu^{2+} to provide luminescent emission, and z is 0.0001 to 0.2 based on the mole amount of $Sr_xCa_{1-x}Ga_2S_4$, the wavelength transformer effective to increase the light at the light output having wavelength between 535 nm and 560 nm.

2. The light emitting device of claim 6, wherein z is 0.001 to 0.2.

3. The light emitting device of claim 1, wherein z is 0.001 to 0.1.

4. The light emitting device of claim 1, wherein y is 0.001 to 0.1 based on the mole amount of $Sr_{1-x}Ca_xGa_2S_4$.

5. The light emitting device of claim 4, wherein y is 0.01 to 0.08

6. The light emitting device of claim 4, wherein y is 0.01 to 0.04.

7. The light emitting device of claim 1, wherein the phosphor has an emission peak of 535 nm to 560 nm.

8. The light emitting device of claim 7, wherein the emission peak has a bandwidth of 50 nm or less under excitation with an emission source at 440 nm $\pm$ 40 nm.

8. A method of making a strontium calcium thiogallate phosphor of formula $Sr_{1-x}Ca_xGa_2S_4:yEu^{2+}\bullet zGa_2S_3$, where x is 0.0001 to 1, y is a value defining sufficient Eu^{2+} to provide luminescent emission, and z is 0.0001 to 0.2 based on the mole amount of $Sr_{1-x}Ca_xGa_2S_4$, the method comprising:

forming a composition of sulfate salts of gallium, divalent europium, calcium and, if x is not 1, strontium; and

firing the composition under hydrogen sulfide.

9. The method of claim 8, wherein z is 0.001 to 0.2.

10. The method of claim 8, wherein where the amount of gallium is tuned to the range of 0.1 to 7 % in excess of the stoichiometric amount of $Sr_xCa_{1-x}Ga_2S_4:yEu^{2+}$.

11. The method of claim 8, further comprising:

a second firing of the composition following the firing under hydrogen sulfide.

12. The method of claim 11, wherein the first firing is conducted at 500 to 850 degrees C.

13. The method of claim 12, wherein the second firing is conducted at 750 to 950 degrees C.

14. The method of claim 12, wherein the product of the first firing is ground prior to the second firing.

15. The method of claim 8, wherein z is 0.001 to 0.1.

16. The method of claim 8, wherein y is 0.001 to 0.1 based on the mole amount of $Sr_{1-x}Ca_xGa_2S_4$.

17. The method of claim 16, wherein y is 0.01 to 0.08

18. The method of claim 16, wherein y is 0.01 to 0.04.

19. The method of claim 8, wherein the phosphor has an emission peak of 535 nm to 560 nm.

20. The method of claim 19, wherein the emission peak has a bandwidth of 50 nm or less under excitation with an emission source at 440 nm ± 40 nm.